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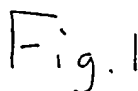
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US 4360008 A      US 4314551 A

(58) Field of search  
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(57) A laryngoscope comprises a beak (3) for insertion into a patient's throat and a movably mounted plate (7) carried on the beak which can be closed onto the free end of the beak during insertion thereof into the throat but which is movable away from the free end so as to displace any soft tissue in the patient's throat and improve visibility at the distal end of the beak. Hand-operated means (10) is provided for moving the plate between the open and closed positions. In an alternative embodiment, the plate is mounted at one end of an arm of a two-arm lever pivoted under the action of a torsion spring at the outer angle of the beak and handle, the other arm of the lever forming the manual operating means (see Fig. 2). The plate (7) may carry a mirror (8) on the side facing the beak.



1/2

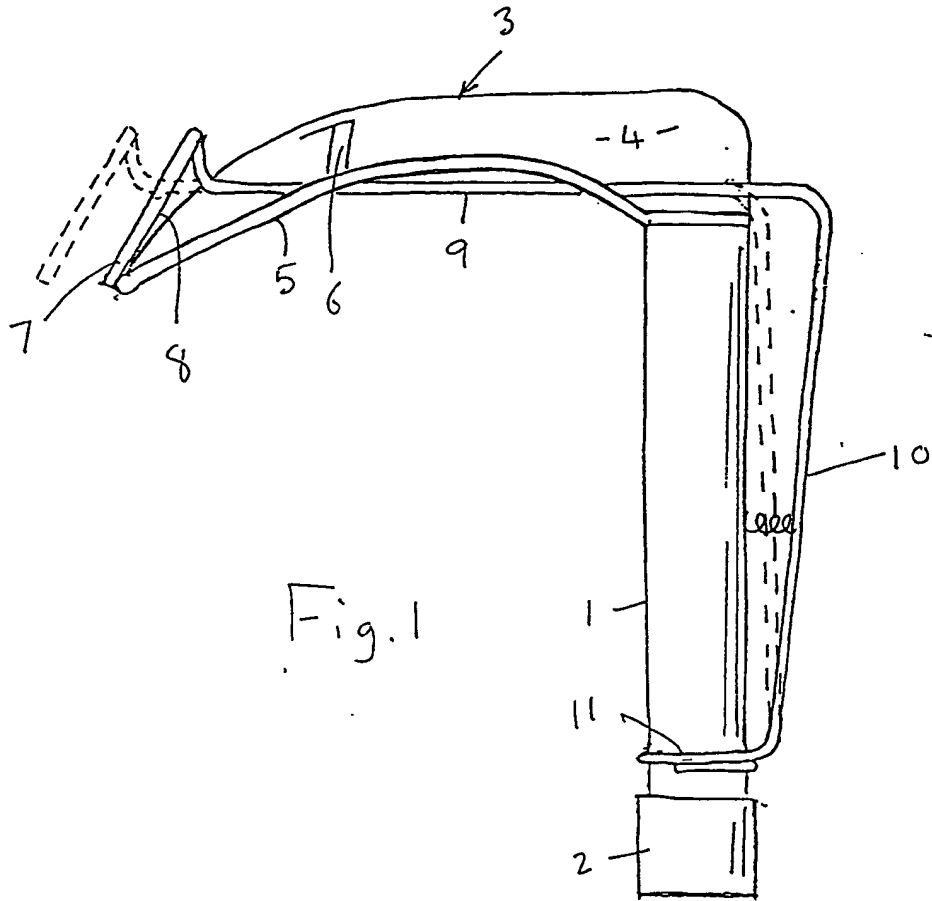


Fig. 1

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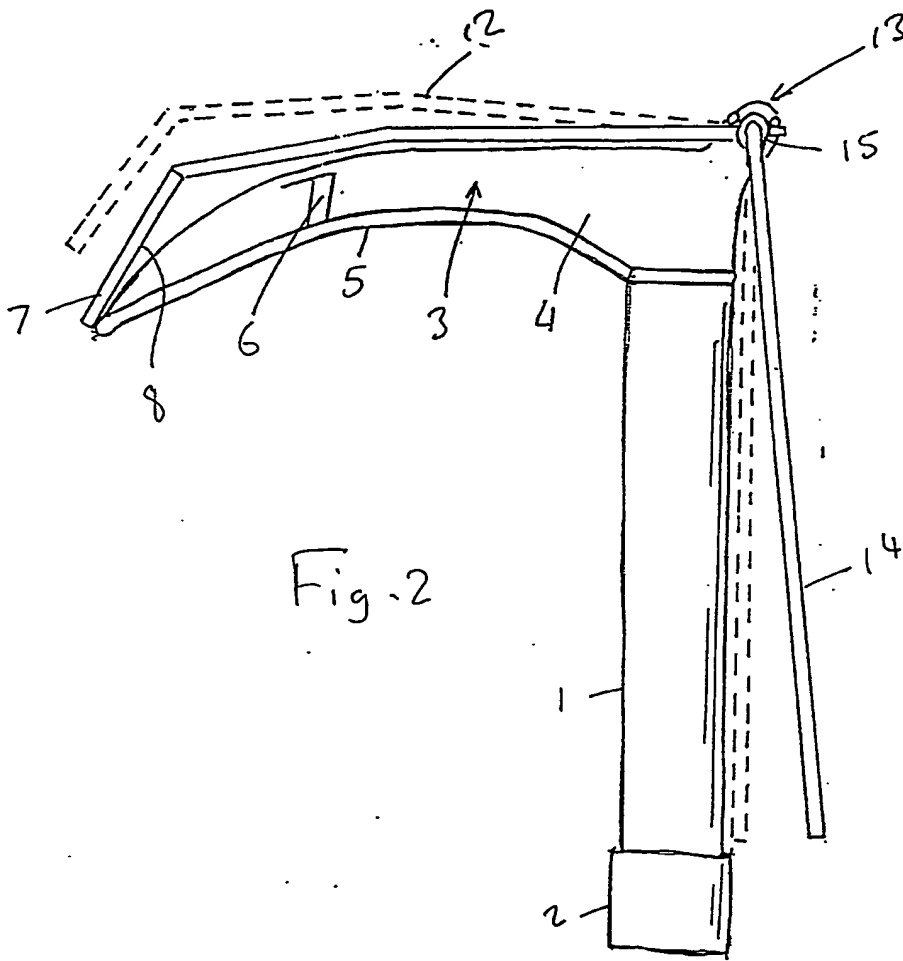


Fig. 2

LARYNGOSCOPEDescription

This invention relates to laryngoscopes.

The conventional laryngoscope comprises a handle portion for housing dry cells for illuminating a lamp, and a beak extending to one side of the handle from one end thereof, the beak being intended for insertion into a patient's throat and either having means for directing light from the lamp along the beak and away from the handle or being adapted to mount the lamp to so direct the light.

A disadvantage with conventional laryngoscopes is that visibility at the distal end of the beak is sometimes obscured by soft tissue in the patient's throat.

An object of the invention is to obviate or mitigate this disadvantage.

Accordingly, the present invention provides in a laryngoscope a hand-operated means comprising a plate which can be closed onto the free end of the beak for insertion into the patient's throat but which can be opened from the beak so as to displace any soft tissue in the patient's throat and improve visibility at the distal end of the beak.

Preferably, the plate has a mirror on the side thereof which faces the beak so that deeper regions of the patient's throat can be viewed via the mirror.

Preferably, the hand-operated means is spring-urged to close the plate onto the beak.

Embodiments of the invention will now be described, by way of example, with reference to the accompanying drawings, in which:-

Fig 1 is a side elevation of one embodiment of the invention; and

Fig 2 is a side elevation of another embodiment of the invention.

In both figures a laryngoscope comprises a tubular handle portion 1 having a removable cap 2. The handle portion 1 is intended to house a medical illuminator (not shown) which itself houses dry cells and has a lamp at the end remote from the cap 2 which can be depressed to operate the illuminator. The laryngoscope also comprises a beak 3 extending to one side of the handle portion 1 from the end remote from the cap 2. The beak 3, in turn, comprises a spine 4 and a curved rib 5 extending from one side of the spine 4. A clear panel is set into a recess in the spine 4 on the side thereof remote from the rib 5 and one end of the panel can be seen at 6 where the spine 4 is cut away. The other end of the panel covers an opening exposing the lamp of the illuminator so that the light therefrom is directed by the panel along the beak 3.

The laryngoscope so far described is one conventional and disposable form. In another conventional form the handle simply houses dry cells and the lamp is mounted in a similar position to the end 6 of the clear panel.

In Fig 1 a hand-operated means comprises a plate 7 which can be closed onto the free end of the beak 3 as shown in full lines. The plate 7 has a mirror 8 on the side thereof which faces the beak 3. The plate 7 is mounted on one end of a length of spring wire having a first substantially straight reach 9 slidable through holes in the rib 5. Beyond the handle 1 the reach 9 curves into a second reach 10 which terminates in a coil 11 tightly embracing the handle portion 1 adjacent the cap 2. The length of spring wire is so stressed that it tends to close the plate 7 onto the beak 3.

In Fig 2 the mirrored plate 7,8 is again provided but in this case is mounted on a free end of one arm 12 of a two-arm lever pivoted at 13 to the spine 4 and having another arm 14 lying alongside the handle portion 1. A torsion spring 15 is provided at the pivot 13 so that the plate 7 tends to close onto the beak 3.

In both embodiments, the beak 3 can be inserted into the patient's throat with the plate 7 closed onto the beak

3. Then by grasping the handle, and thus depressing the item 10, 14 the plate 7 is moved away from the beak 3 as shown in broken lines, thus raising any soft tissue which might otherwise obscure vision and positioning the mirror 8 so that deeper regions of the patient's throat can be viewed.

The embodiment shown, in Fig 2 lends itself also to modification of another known model of laryngoscope where the beak is pivoted to the handle and a lamp mounted on the beak is lit when the beak is opened-out to assume the attitude relative to the handle as shown in the drawing. In such a modification the arm 14 is pivoted to the arm 12 so that the former can be folded back onto the latter for stowage purposes.

claims

1. A laryngoscope comprising a beak for insertion into a patient's throat and a pivotally mounted plate carried on the beak which can be closed onto the free end of the beak during insertion of the beak into the patient's throat but which is pivotal from the free end of the beak so as to displace any soft tissue in the patient's throat and improve visibility at the distal end of the beak and hand-operated means for pivoting the plate between the open and closed positions.

2. A laryngoscope according to claim 1, wherein the plate is provided with a mirror on the side thereof which faces the beak so that deeper regions of the patient's throat can be viewed via the mirror.

3. A laryngoscope according to claim 1 or 2, wherein the hand-operated means is spring-urged to close the plate onto the free end of the beak.

4. A laryngoscope according to claim 3, wherein the hand operated means comprises a lever mounted adjacent a handle of the laryngoscope.

5. A laryngoscope substantially as hereinbefore described with reference to and as shown in Figure 1 of the drawings.

6. A laryngoscope substantially as hereinbefore described with reference to and as shown in Figure 2 of the drawings.

6.

**Patents Act 1977**  
**Examiner's report to the Comptroller under**  
**Section 17 (The Search Report)**

Application number

GB 9116642.1

**Relevant Technical fields**

(i) UK CI (Edition K ) A5R (REN, REP, REW)

(ii) Int CI (Edition 5 ) A61B 1/26

**Search Examiner**

L V THOMAS

**Databases (see over)**

(i) UK Patent Office

(ii)

**Date of Search**

3 NOVEMBER 1992

Documents considered relevant following a search in respect of claims 1 TO 6

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
X	US 4360008 (CORAZZELLI) see line 46 column 2 to line 7 column 3, line 62 column 4 to line 16 column 15 and Figures 1, 4 and 8	1, 3, 4
X	US 4314551 (KADELL) see lines 44-64 column 1 lines 7-27 column 3, lines 50-55 column 4 and Figures 1 and 4	1, 3, 4



Category	Identity of document and relevant passages	Relevance to claim(s)

### Categories of documents

**X:** Document indicating lack of novelty or of inventive step.

**Y:** Document indicating lack of inventive step if combined with one or more other documents of the same category.

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